

### **REMARKS**

Claims 1-6, 8-14 and 16-30 are currently pending, of which claims 1, 19, 23-25, and 28 are independent. Claim 7 is canceled herein. The subject matter of claim 7 has been incorporated into claim 1. Claims 1, 6, 19, 23, 24 and 28 are amended. No new matter has been added. Applicant respectfully submits that all of the pending claims are in condition for allowance.

#### **Rejection of Claims under 35 U.S.C. § 103**

##### **I. Claims 1-5, 7-14 and 16-27**

Claims 1-5, 7-14, and 16-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication Number 2004/0034846 to Ortal (hereafter “Ortal”) in view of U.S. Patent Number 7,367,028 to Kodosky et al. (hereafter “Kodosky”) (Office Action, page 2, § 4). Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claims 1-5, 7-14, and 16-27 as set forth below.

Claim 7 has been canceled herein. The rejection of claim 7 is moot.

##### **A. Claim 1**

Claim 1 as amended recites:

1. In a graphical modeling environment, a method comprising:
  - receiving a user request to define a parameter or a setting of a block in a simulatable block diagram model;
  - determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model, the code for the simulatable block diagram model being executable to simulate the simulatable block diagram model;
  - generating, using a predictor mechanism, a preview of code representative of the code corresponding to the block prior to generating, using an execution engine, the code for the simulatable block diagram model based on the determining, the preview of code predicting and emulating the code as if generated by the execution engine;** and
  - displaying the preview of the code on a graphical user interface.

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 1: *generating, using a predictor mechanism, a preview of code representative of the code corresponding to the block prior to generating, using an execution engine, the code for the simulatable block diagram model based on the determining, the preview of code predicting and emulating the code as if generated by the execution engine.*

The Examiner indicates that Ortal does not teach generating preview of code prior to generation of code for the block diagram model based on the determining (Office Action, page 3). However, the Examiner asserts that Kodosky teaches this claim feature. Applicant respectfully disagrees.

The section of Kodosky cited by the Examiner for generating preview of code discusses generating a preview of a configuration diagram to allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied (Col. 6, lines 29-32). That is, Kodosky discusses displaying preview of a graphical change. Applicant respectfully submits that the pending claims do not generally claim the concept of previewing. Specifically, Applicant's claim 1 recites *generating a preview of code*. Generating a preview of code is not equivalent to generating a graphical preview. In generating a graphical preview, Kodosky simply illustrates the graphical changes requested by the user. However, Kodosky does not disclose or suggest generating *code* that corresponds to the graphical change implemented by the user. Applicant respectfully submits that Kodosky, alone or in any reasonable combination with Ortal, does not disclose or suggest *generating a preview of code representative of the code corresponding to the block*.

In an effort to advance prosecution, Applicant amends claim 1 to further recite that the preview of code and the code for the simulatable block diagram model are generated by two different mechanisms (Present Application, page 14, lines 2-3). Specifically, amended claim 1 recites *generating, using a predictor mechanism, a preview of code representative of the code corresponding to the block prior to generating, using an execution engine, the code for the simulatable block diagram model*.

The Examiner asserts that Kodosky's preview of configuration diagram is equivalent to the preview of *code*. As provided above, Kodosky fails to disclose or suggest generating a preview of *code*. Kodosky discusses generating a preview of a *configuration diagram*. In addition, Kodosky fails to disclose or suggest that the preview of the configuration diagram is generated by a separate mechanism than the configuration diagram itself. Specifically, Kodosky, alone or in any reasonable combination with Ortal, do not teach or suggest *generating, using a predictor mechanism, a preview of code representative of the code corresponding to the block prior to generating, using an execution engine, the code for the simulatable block diagram model*, as recited in Applicant's amended claim 1.

Applicant further amends claim 1 to recite *the preview of code predicting and emulating the code as if generated by the execution engine*. In the present application, the preview of code that is generated by the predictor mechanism *predicts and emulates the code as if generated by the execution engine* even though the preview of code is not generated by the execution engine. Since Kodosky is silent about two different mechanisms for generating the preview of configuration diagram and the configuration diagram itself, Kodosky, alone or in any reasonable combination with Ortal, cannot disclose or suggest *the preview of code predicting and emulating the code as if generated by the execution engine*, as recited in Applicant's amended claim 1.

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 1. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 1 under 35 U.S.C. § 103(a).

#### B. Claims 2-5, 8-14, and 16-18

Claims 2-5, 8-14, and 16-18 depend from claim 1 and, as such, incorporate each and every element of claim 1. Therefore claims 2-5, 8-14, and 16-18 are allowable for at least the same reasons discussed above for claim 1. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claims 2-5, 8-14, and 16-18 under U.S.C. § 103(a).

C. Claim 19

Independent claim 19 as amended recites:

19. In a graphical modeling environment, a method comprising:  
determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without an execution engine generating code for the simulatable block diagram model, the code being executable to simulate the simulatable block diagram model;  
based on the determining, automatically updating a preview of code representative of the code corresponding to the block in the simulatable block diagram model in response to a user altering the parameter or the setting of the block, the updating comprising:  
**generating the preview of code using a predictor mechanism, the preview of code predicting and emulating the code as if generated by the execution engine;** and  
displaying the updated preview of the code on a graphical user interface.

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 19: *generating the preview of code using a predictor mechanism, the preview of code predicting and emulating the code as if generated by the execution engine.*

As discussed above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest *generating the preview of code using a predictor mechanism, the preview of code predicting and emulating the code as if generated by the execution engine.*

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 19. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 19 under U.S.C. § 103(a).

D. Claims 20-22

Claims 20-22 depend from claim 19 and, as such, incorporate each and every element of claim 19. Therefore claims 20-22 are allowable for at least the same reasons discussed above for

claim 19. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claims 20-22 under U.S.C. § 103(a).

E. Claim 23

Independent claim 23 as amended recites:

23. A computer-readable storage medium for use with an electronic device having a processor, the medium storing instructions executable by the processor of the electronic device, the medium storing:

- one or more instructions for receiving a user request to define a parameter or a setting of a block in a simulatable block diagram model;
- one or more instructions for determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model;
- one or more instructions for **generating, using a predictor mechanism, based on the determining, a preview of code in response to the user request, the generating the preview occurring prior to generating the code for the block diagram model using an execution engine, the preview of code predicting and emulating the code corresponding to the block as if generated by the execution engine**, where the preview of the code is presented in a coding format that differs from a coding format of the code corresponding to the block; and
- one or more instructions for displaying the preview of the code on a graphical user interface.

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 23: *generating, using a predictor mechanism, based on the determining, a preview of code in response to the user request, the generating the preview occurring prior to generating the code for the block diagram model using an execution engine, the preview of code predicting and emulating the code corresponding to the block as if generated by the execution engine.*

As discussed above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest *generating, using a predictor mechanism, based on the determining, a preview of code in response to the user request, the generating the preview occurring prior to generating the code for the block diagram model using an execution engine, the preview of code*

*predicting and emulating the code corresponding to the block as if generated by the execution engine.*

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 23. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 23 under U.S.C. § 103(a).

#### F. Claim 24

Independent claim 24 recites:

24. A computer-readable storage medium for use with an electronic device having a processor, the medium storing instructions executable by the processor of the electronic device, the medium storing:

one or more instructions for determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without an execution engine generating code for the simulatable block diagram model, the code being executable to simulate the simulatable block diagram model;

one or more instructions for automatically updating, based on the determining, a preview of code representative of the code corresponding to the block in the simulatable block diagram model in response to a user altering the parameter or the setting of the block, the one or more instructions for updating comprising:

one or more instructions for **generating the preview of code using a predictor mechanism, the preview of code predicting and emulating the code as if generated by the execution engine;** and  
one or more instructions for displaying the updated preview of the code on a graphical user interface.

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 24: *generating the preview of code using a predictor mechanism, the preview of code predicting and emulating the code as if generated by the execution engine.*

As discussed above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest *generating the preview of code using a predictor mechanism, the preview of code predicting and emulating the code as if generated by the execution engine.*

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 24. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 24 under U.S.C. § 103(a).

#### G. Claim 25

Independent claim 25 recites:

25. A system for generating and displaying a graphical programming application, comprising:

- user-operable input means for inputting data to the graphical programming application;
- a display device for displaying a simulatable block diagram model; and
- an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, the computer program instructions including:
  - instructions for determining how defining a property of a block in the simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model, and
  - instructions for providing, based on the determining, a code preview to a user on the display device, the code preview displaying a preview of code representative of the code corresponding to the block in the simulatable block diagram model after the user defines the property of the block using the user-operable input means, and **the preview of the code being created by a predictor mechanism which emulates how the code appears when the code is generated by an execution engine.**

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 25: *the preview of the code being created by a predictor mechanism which emulates how the code appears when the code is generated by an execution engine.*

As discussed above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest *the preview of the code being created by a predictor mechanism which emulates how the code appears when the code is generated by an execution engine.*

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 25. Accordingly,

Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 25 under U.S.C. § 103(a).

#### H. Claims 26 and 27

Claims 26 and 27 depend from claim 25 and, as such, incorporate each and every element of claim 25. Therefore claims 26 and 27 are allowable for at least the same reasons discussed above for claim 25. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claims 26 and 27 under U.S.C. § 103(a).

#### II. Claims 28-30

In the Office Action, claims 28-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ortal in view of Kodosky and further in view of U.S. Patent Number 7,086,046 to Barsness et al. (hereafter “Barsness”) (Office Action, page 13, §5). Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claims 28-30 as set forth below.

##### A. Claim 28

Independent claim 28 as amended recites:

28. A system for generating and displaying a graphical programming application, comprising:

- user-operable input means for inputting data to the graphical programming application;

- a display device for displaying a simulatable block diagram model; and

- an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, the computer program instructions including instructions for:

- receiving a first datum altering a setting of a first portion of the simulatable block diagram model,

- determining how altering the setting of the first portion of the simulatable block diagram model will alter code for the simulatable block diagram model, without an execution engine generating the code for the simulatable block diagram model,

- in response to the first datum, **generating, based on the determining, a preview of code using a predictor mechanism, the preview of code predicting and emulating code for the first portion as if generated by the execution engine prior to generation of the code for the simulatable block diagram model by the execution engine,**



receiving a second datum altering a setting of a second portion of the simulatable block diagram model, and  
in response to the second datum, automatically updating a portion of the preview of the code, the updated portion of the preview of the code being presented in a format that differs from an un-updated portion of the preview of the code.

Applicant respectfully submits that Ortal, Kodosky and Barsness, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 28: *generating, based on the determining, a preview of code using a predictor mechanism, the preview of code predicting and emulating code for the first portion as if generated by the execution engine prior to generation of the code for the simulatable block diagram model by the execution engine.*

In light of the arguments presented above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest *generating, based on the determining, a preview of code using a predictor mechanism, the preview of code predicting and emulating code for the first portion as if generated by the execution engine prior to generation of the code for the simulatable block diagram model by the execution engine*, as required by claim 28.

Barsness fails to cure the shortcomings of Ortal and Kodosky with respect to disclosing or suggesting at least the above feature of claim 28.

Barsness discusses displaying compiler optimized source code (Barsness, abstract). Initially, an optimized source code is generated for an original source code (Barsness, abstract). The optimized source code is displayed on an output device to visually indicate a change performed to the original source code in accordance to a compiler optimization (Barsness, abstract). That is, Barsness generates code from code, as opposed to code from a graphical model. As such, Barsness is not a related art to Ortal and the present application that discuss generating code from a simulatable block diagram model.

In addition, Barsness indicates that the program editor is a software application that enables a programmer to write and edit computer programs in the form of source code. The compiler program generates executable object code from the source code. It is again the compiler program that performs at least one of the many available compiler optimizations on the

source code (Col. 3, lines 54-64). As such, in Barsness, the compiler program generated the executable object code and the optimized executable object code. Accordingly, Barsness, alone or in any reasonable combination with Ortal and Kodosky, does not disclose or suggest *generating, based on the determining, a preview of code using a predictor mechanism, the preview of code predicting and emulating code for the first portion as if generated by the execution engine prior to generation of the code for the simulatable block diagram model by the execution engine*, as recited in claim 28.

For at least the reasons set forth above, Ortal, Kodosky and Barsness, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 28. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 28 under U.S.C. § 103(a).

#### B. Claims 29 and 30

Claims 29 and 30 depend from claim 28 and, as such, incorporate each and every element of claim 28. Therefore claims 29 and 30 are allowable for at least the same reasons discussed above for claim 28. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claims 29 and 30 under U.S.C. § 103(a).

#### III. Claim 6

In the Office Action, claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ortal in view of Kodosky and further in view of U.S. Patent Number 6,175,948 to Miller (hereafter “Miller”) (Office Action, page 16, §6). Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claim 6 as set forth below.

Claim 6 depends from and includes the features of claim 1.

Applicant respectfully submits that Ortal, Kodosky and Miller, alone or in any reasonable combination, fail to disclose or suggest *generating, using a predictor mechanism, a preview of code representative of the code corresponding to the block prior to generating, using an execution engine, the code for the simulatable block diagram model based on the*

*determining, the preview of code predicting and emulating the code as if generated by the execution engine* as recited in independent claim 1, from which claim 6 depends.

In light of the arguments presented above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest *generating, using a predictor mechanism, a preview of code representative of the code corresponding to the block prior to generating, using an execution engine, the code for the simulatable block diagram model based on the determining, the preview of code predicting and emulating the code as if generated by the execution engine*, as recited in claim 6.

Miller fails to cure the shortcomings of Ortal and Kodosky with respect to disclosing or suggesting at least the above feature of claim 6.

Miller relates to a waveform compiler method that employs top-down system decomposition coupled with component based design development (Miller, abstract). Miller discusses capturing user designs by generating parameterized models based on reusable components.

However, Miller, alone or in any reasonable combination with Ortal and Kodosky, does not disclose or suggest “*generating, using a predictor mechanism, a preview of code representative of the code corresponding to the block prior to generating, using an execution engine, the code for the simulatable block diagram model based on the determining, the preview of code predicting and emulating the code as if generated by the execution engine*, as recited in claim 6.

For at least the reasons set forth above, Ortal, Kodosky and Miller, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 6. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 6 under U.S.C. § 103(a).

**CONCLUSION**

In view of the above remarks, Applicant believes the pending application is in condition for allowance and urges the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicant's attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-081RCE3. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. § 1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

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Respectfully submitted,

Electronic signature: /Neslihan I. Doran/  
Neslihan I. Doran  
Registration No.: 64,883  
LAHIVE & COCKFIELD, LLP  
One Post Office Square  
Boston, Massachusetts 02109-2127  
(617) 227-7400  
(617) 742-4214 (Fax)  
Attorney/Agent For Applicant